Claims

We Claim:

1.   A computer-implemented method for enabling access to one or more data
5   sources or targets in a computer system, comprising:

determining one or more data sources or targets connected to the computer;

automatically generating one or more URLs for each of the data sources or targets;

wherein each of the URLs is useable for reading data from the respective data

source or writing data to the respective data target.

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2.   The method of claim 1, wherein said data sources and targets include

addressable data sources and targets of a hardware device.

3.   The method of claim 1, wherein said automatically generating comprises
15   including configuration information in one or more URLs; wherein the configuration

information may be used for reading data from the respective data source or writing data to

the respective data target.

4.   The method of claim 1, wherein said automatically generating comprises:
20   querying a database to obtain information regarding a data source or data target;

generating URLs based on the obtained information.

5.   The method of claim 1, wherein one or more hardware devices are

connected to the computer; wherein said automatically generating comprises:
25   querying a database to obtain device information regarding one or more of the

hardware devices, wherein said querying includes determining the addressable data sources

and targets of the device(s);

generating one or more URLs based on the device information and the addressable

data sources and targets thus obtained.

6.   The method of claim 5, wherein said device information includes device configuration information; wherein said generating comprises including device configuration information in one or more URLs identifying hardware device data sources or targets.

7.   The method of claim 5, wherein the devices comprise one or more from the group consisting of: DAQ, GPIB, VXI, PXI, and serial.

8.   The method of claim 5, wherein the computer system includes a first device of a first type and a second device of a second type;

wherein said querying a database comprises querying a first database to obtain device information regarding the first device and querying a second database to obtain device information regarding the second device.

9.   The method of claim 5, further comprising:

connecting a new device to the computer;

wherein said querying comprises obtaining device information regarding the new device, wherein said querying includes determining the addressable data sources and targets of the new device;

wherein said URLs include one or more URLs for one or more addressable data sources and targets of the new device.

10.   The method of claim 1, wherein at least one URL is operable to be included in an application program for reading data from a data source or writing data to a data target.

11.   The method of claim 1, further comprising:

providing one or more of the URLs to an application program, wherein the application program is operable to access the data source or data target identified by the URL.

12.   The method of claim 11, wherein the application program includes a data socket client, wherein the data socket client uses the URL to connect to the data source or target identified by the URL and read data from it or write data to it.

13.   The method of claim 1, further comprising:

integrating the URLs with the computer operating system;

wherein the URLs are accessible via a user interface.

14.   The method of claim 13, wherein the URLs may be provided to application programs via said user interface.

15.   The method of claim 13, further comprising:

editing the URLs using said user interface.

16.   A system for enabling access to one or more data sources or targets, comprising:

a computer system including a CPU and memory;

one or more data sources or targets connected to the computer system;

a URL generation manager comprised in the memory of the computer system which is executable to determine one or more of the data sources or targets and automatically generate one or more URLs for each of the determined data sources or targets;

wherein each of the URLs is useable for reading data from the respective data source or writing data to the respective data target.

17.   The system of claim 16, wherein the system further comprises:

one or more hardware devices connected to the computer system; wherein said data sources and targets include addressable data sources and targets of a hardware device.

18.   The system of claim 17, wherein the devices comprise one or more from the
5   group consisting of: DAQ, GPIB, VXI, PXI, and serial.

19.   The system of claim 16, wherein one or more of the generated URLs includes configuration information; wherein the configuration information may be used for reading data from the respective data source or writing data to the respective data target.
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20.   The system of claim 16, wherein the system further comprises:

one or more plug-in modules comprised in the memory of the computer system; wherein the plug-in modules interface with the URL generation manager; wherein each plug-in module is capable of automatically generating URLs to reference a particular type
15   or class of data source or target.

21.   The system of claim 20, wherein the system further comprises:

one or more hardware devices connected to the computer system; wherein one or more of the plug-in modules is capable of automatically generating URLs to reference data
20   sources or targets of a particular type or class of hardware device.

22.   The system of claim 16, wherein the system further comprises:

one or more databases which each store information regarding a particular type or class of data source or target, wherein said information includes information regarding the
25   locations or addresses of one or more data sources or targets connected to the computer.

23.   The system of claim 22, wherein said database information includes configuration information for one or more data sources or targets connected to the computer.

24. The system of claim 16, wherein the system further comprises:

one or more hardware devices connected to the computer system;

one or more databases which each store information regarding a particular type or class of hardware device, wherein said information includes device information regarding the locations or addresses of one or more device data sources or targets connected to the computer.

25. The system of claim 24, wherein said database device information includes device configuration information for one or more device data sources or targets connected to the computer.

26. The system of claim 16, wherein the system further comprises:

one or more databases which each store information regarding a particular type or class of data source or target, wherein said information includes information regarding the locations or addresses of one or more data sources or targets connected to the computer;

one or more plug-in modules comprised in the memory of the computer system; wherein each plug-in module interfaces with the URL generation manager; wherein each plug-in module obtains information from one or more of the databases regarding a particular type or class of data source or target; wherein each plug-in module is capable of automatically generating URLs to reference a particular type or class of data source or target.

27. The system of claim 16, wherein the system further comprises:

one or more hardware devices connected to the computer system;

one or more databases which each store information regarding a particular type or class of hardware device, wherein said information includes device information regarding the locations or addresses of one or more device data sources or targets connected to the computer;

one or more plug-in modules comprised in the memory of the computer system; wherein each plug-in module interfaces with the URL generation manager; wherein each plug-in module obtains information from one or more of the databases regarding a particular type or class of device data source or target; wherein each plug-in module is capable of automatically generating URLs to reference a particular type or class of device data source or target.

28.   The system of claim 16, wherein the system further comprises computer programs executable to edit the generated URLs; wherein the URL information that may be edited includes configuration information.

29.   The system of claim 16, wherein the system further comprises an application program operable to receive a generated URL, and connect to the data source or target identified by the URL, and read data from it or write data to it.

30.   The system of claim 29, wherein the application program includes a data socket client, wherein the data socket client uses the URL to connect to the data source or target identified by the URL and read data from it or write data to it.

31.   A memory medium comprising program instructions which implement: determining one or more data sources or targets connected to the computer; automatically generating one or more URLs for each of the data sources or targets; wherein each of the URLs is useable for reading data from the respective data source or writing data to the respective data target.

32.   The memory medium of claim 31, wherein said data sources and targets include addressable data sources and targets of a hardware device.

33.   The memory medium of claim 31, wherein the URLs may be provided to an application program; wherein the application program is operable to connect to the data source or target identified by the URL, and read data from it or write data to it.

34.   The memory medium of claim 33, wherein the application program includes a data socket client; wherein the data socket client uses the URL to connect to the data source or target identified by the URL and read data from it or write data to it.

35.   A computer-implemented method for enabling access to one or more data sources or targets in a computer system, comprising:

determining one or more data sources or targets connected to the computer;

automatically generating one or more URLs for each of the data sources or targets;

wherein each of the URLs is useable for accessing data from/to the respective data source/target.

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